

Appln. No. 10/647,367  
Amdt. dated June 12, 2005  
Reply to Office Action of February 11, 2005

**Amendments to the Title:**

On page 1, change the title to read as follows:

INK JET PRINTER AND IMAGE FORMING METHOD USING A  
HUMIDITY DETECTOR TO CONTROL THE CURING OF AN IMAGE

**Amendments to the Specification:**

On page 1, amend the paragraph beginning on line 7 as follows:

An ink jet printer for ejecting ink to a recording medium and recording a desired image on a recording surface of the recording medium has been known well. When so-called cationic polymerization ink ~~which includes~~, having a cationic polymerization component, ~~and which is curable when irradiated with UV radiation is applied as the recording ink for after it has been ejected by the ink jet printer, the cationic polymerization ink is ejected to the recording medium as a drop on a recording medium from a recording head, and placed at a predetermined position, on the recording medium the ink is cured or polymerized.~~ Then, ~~when the cationic polymerization ink is irradiated with UV radiation and cured, As a result of polymerization,~~ a dot is formed on the recording medium.

On page 1, amend the paragraph beginning on line 19 as follows:

The above-described cationic polymerization ink has humidity dependence. Therefore, the ink ~~is may not be~~ cured sufficiently ~~only when irradiated with UV radiation because its~~ has low sensitivity to UV radiation in a humid environment is lowered. However, when temperature of the ink is raised higher than predetermined temperature (for example, about 40 °C), it is possible to prevent the sensitivity of the cationic polymerization ink to UV radiation from being lowered. As a result, ~~it is prevented that to increase the sensitivity of the ink to UV radiation under relatively high humidity is lowered and the cationic polymerization ink is not cured sufficiently when irradiated with UV radiation by heating, the recording medium and raising the is treated at elevated temperatures of the cationic so as to polymerization polymerize ink placed~~ on the recording medium.

On page 2, amend the paragraph beginning on line 10 as follows:

~~In case When~~ the recording medium is a paper, or the like which is hardly not affected well by the temperature, ~~especially any problems are not caused~~ elevated temperatures do not cause any significant problems. However, ~~in case when~~ the recording medium is made of resin or the like, it is affected well by the elevated temperatures. Therefore, because the recording medium shrinks or is distorted when heated, heating the recording medium causes ~~bad results that image quality is degraded and to degrade since the recording medium is not carried exactly precisely conveyed.~~

On page 2, amend the paragraph beginning on line 19 as follows:

Further, it is possible to ~~prevent that effectively cure~~ the cationic polymerization ink is ~~not cured sufficiently~~ by irradiating UV radiation of high irradiation luminance to the ink. However, ~~in the case~~ because the amount of heat generated from a light source of UV radiation ~~becomes may become~~ large, the temperature of the recording medium is raised. As a result, the same result as the above-described one is caused.

On page 3, amend the paragraph beginning on line 2 as follows:

An object of the present invention is to enhance curability of cationic polymerization ink ~~in a state that a raise in temperature of a recording medium is prevented as possible while minimizing heating of a recording medium onto which the ink is applied.~~

On page 4, amend the paragraph beginning on line 8 as follows:

Consequently, ~~in~~ only ~~first case~~ when the humidity around the ink placed on the recording medium is high, the ~~irradiation~~ luminance of the light to be irradiated from the light irradiation section is increased controlled so as to be higher. On the other hand, ~~in second case~~ ~~either than the first case~~, when the humidity is low, the luminance irradiation of the light to be irradiated from the light irradiation section is ~~controlled so as to be lower~~ may even be lowered. Accordingly, more than necessary light is not irradiated to the recording medium. As a result, it is possible to enhance curability of so-called cationic polymerization ink including a cationic polymerization component, ~~with~~ while minimizing and even preventing a raise rise in temperature of the recording medium irradiated with light ~~as possible~~.

On page 14, delete line 7.

On page 15, amend the paragraph beginning on line 15 as follows:

The carrying section comprises a carrying motor, a carrying roller or the like which is not shown in figures, and has a function for carrying the recording medium 99 in the sub scanning direction B by driving the carrying motor. More specifically, the carrying section carries the recording medium 99 intermittently in time with movement of the carriage 4a, ~~as follows, that~~ That is, carries and stops the carrying station repeatedly alternates carrying and stopping of the recording medium 99 continuously. The sub scanning direction B agrees with the carrying direction of the recording medium 99.

On page 19, amend the paragraph beginning on line 17 as follows:

When the piezoelectric element 2b is driven ~~in the state ink is liquid while the ink is in a liquid state~~, the driving piezoelectric element 2x is displaced in a vertical direction perpendicular to a longitudinal direction of the ink flow path 2d. Therefore, because the volume of the ink flow path 2d is changed, ink is ejected as an ink drop from the nozzle 2j. That is, the signal to hold the reduced volume of the ink flow path 2d is always supplied to the piezoelectric element 2b. When the plus signal is supplied to the selected ink flow path 2 in order to displace the ink flow path 2 to reduce the volume thereof after displacing the ink flow path 2 in the direction to increase the volume thereof, ink is ejected as an ink drop from the nozzle 2j corresponding to the ink flow path 2d.

On page 23, amend the paragraph beginning on line 2 as follows:

The UV radiation light source 6 ~~can apply~~ may be selected from a low-pressure mercury lamp, a UV radiation laser, a xenon flush lamp, an insect lamp, a black light, a germicidal lamp, a cold-cathode tube, a LED high-pressure mercury lamp, a metal lamp halide lamp, an electrodeless UV radiation lamp, or other light source.